

# SIEMENS

## SIREMOBIL Compact

**SP**

System - Manual

### Start-up Instructions

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Register 4

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## Tools, auxiliary materials

- Tool kit 97 02 457 Y1971
- Protective conductor meter 44 15 899 RV090  
or Bender safety tester 97 06 979 Y0526
- Dynamic test kit 37 90 156 X1963
- Cu filter set 44 06 120 RV090
- Densitometer 97 02 416 Y1996
- X-Ray filter set, 25 mm AL 97 98 596 G5321
- Resolution tests 28 71 820 RE999
- Bender safety tester 97 06 979 Y0526

(Only if the local voltage supply differs from the delivery status of the SIREMOBIL Compact. Refer to "Note on line voltage" and "Notes on equivalent leakage current".)

## Note on logbook

The logbook is located in the monitor carriage behind the keyboard. Access to the logbook can be gained by removing the cover on the back of the monitor trolley.

## Note on line voltage

The line voltage values for SIREMOBIL Compact upon delivery are shown on the supply voltage plate (back of monitor trolley).

Adapt the SIREMOBIL Compact to the local conditions according to the service instructions for the SIREMOBIL Compact.

Ensure compliance with the notes on equivalent leakage current.

## Notes on equivalent leakage current

### Regulations and applicability for subsidiaries

Perform the equivalent leakage current measurement in countries where DIN VDE 0751 Part 1 applies. In countries where DIN VDE 0751 does not apply, comply with the following: (refer also to ARTD part 2 (CD-ROM), Safety Rules for Installation and Maintenance). Subsidiaries must ensure compliance with all national regulations. In case such regulations do not exist, the instructions in this document should be followed to ensure the safety of customers, patients, technical personnel, and all other persons involved.

### Initial value measured

The equivalent leakage current was measured at the factory and the resulting value was recorded in test protocol 1b. The measurement was performed using the line voltage and line frequency recorded in test protocol 1b. Test protocol 1b is located in Register 3 of the logbook. If the line voltage and line frequency match those recorded in test protocol 1b, use the value recorded in the protocol as the first value measured in the equivalent leakage current / protocol.

**If the local line voltage or line frequency differs from those of the SIREMOBIL Compact upon delivery, the values indicated in protocol 1b are invalid. These values should be indicated as invalid. (Cross them out, enter "values invalid", sign**

your name and date the entry.) In this case, the equivalent leakage current measurement must be performed again. Perform the measurement according to DIN VDE 0751, part 1 (refer to ARTD part 2 (CD-ROM)) and record the value determined as the initial value measured. This value must not exceed the maximum value of 2mA permitted for equivalent leakage current for devices according to VDE 0751 part 1 . Enter the value measured in the equivalent leakage current / protocol (chapter 2 of these instructions). Ensure compliance with the measurement configuration in Fig. 1. SIREMOBIL Compact must be switched on during the measurement. For this reason, the Bender safety tester, if used, must be set to manual. Remove the page containing the protocol from this document and file it in Register 3 of the logbook.

### Repeat measurement

When maintenance or repairs of the primary circuit of the line voltage are performed (for example: repairing the ON/OFF circuit or replacing the line voltage filter), the equivalent leakage current measurement must be performed again. The measurement configuration shown in Fig.1 must be used. SIREMOBIL Compact must be switched on during the measurement. For this reason, the Bender safety tester, if used, must be set to manual mode. The values determined during the repeat measurement must not exceed the limit value specified in VDE 0751, part 1 of 2 mA (refer to ARTD part 2). In addition, they may not exceed the first value measured by more than 50%. If the limit value is exceeded, the Siremobil Compact must be repaired. Record the value measured in the equivalent leakage current / Protocol (logbook, Register 3).

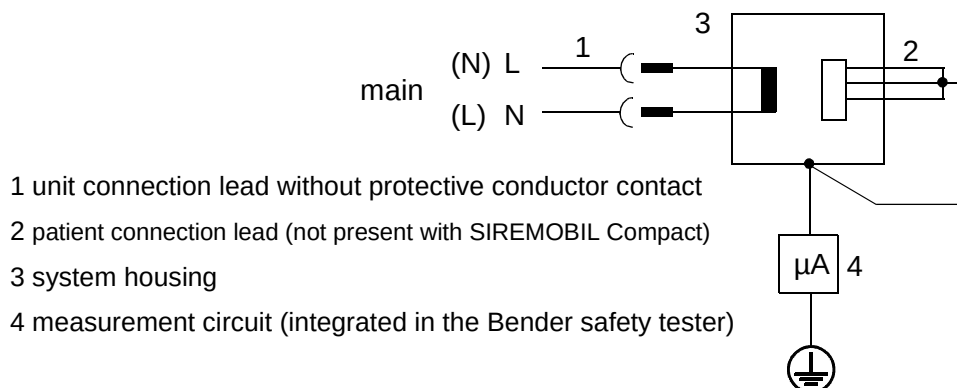


Fig. 1 Measuring the housing leakage current for systems in operation

### Checking the temperature indicator

Check the temperature indicator on the exterior housing of the I.I.

- If the inner square field of the indicator is white, the I.I. was not subjected to excess temperature. Remove the temperature indicator.
- If the indicator is discolored (inner field black), proceed according to IQ document RXD0-000.038.01...

### Notes on country-specific programming

#### 1. Fluoroscopy time limit

A fluoroscopy time limit has been programmed to automatically shut radiation off after 10 minutes of fluoro time in accordance with E DIN IEC 62B/293/CDV. The buzzer will sound

after 5 minutes of fluoro time. Outside of the scope of validity of E DIN IEC 62B/293/CDV, the fluoroscopy time limit for radiation automatic shut off can be programmed to 5 minutes (buzzer sounds after 4.5 minutes of fluoro time ), 10 minutes (buzzer sounds after 9.5 minutes of fluoro time) or no automatic shutoff (buzzer sounds after 4.5 minutes of fluoro time (programmable with the service-PC). Compliance with the applicable laws of the country must be ensured.

## 2. Audible signal for fluoroscopy

The audible signal for fluoroscopy is disabled in the delivery status of the Siremobil Compact. Therefore, an audible signal will not sound during fluoroscopy. If country-specific regulations require that an audible signal sound during fluoroscopy, it can be programmed via the service PC. Corresponding parameter: "Buzzer and block time settings" - "Buzzer mode (FL / IFL / DR)".

## 3. Audible signal for direct exposure

An audible signal sounds when radiation release is completed for direct exposures. If country-specific regulations require that an audible signal sound during radiation release, it can be programmed via the service PC. Corresponding parameter: "Buzzer and block time settings" - "Buzzer mode (CEX)".

## 4. Memoskop C/CE, country-specific configurations

The following parameters can be programmed to comply with country-specific requirements and should be modified accordingly on-site:

|                         |                                                            |
|-------------------------|------------------------------------------------------------|
| <b>User Setup:</b>      | "G. set date / time"                                       |
|                         | "H. hospital name"                                         |
| <b>Programming:</b>     | Refer to the operating instructions for SIREMOBIL Compact. |
| <b>Technical Setup:</b> | "10. Date / Time format"                                   |
|                         | "13. Language"                                             |

Programming the parameters:

Refer to the service instructions for SIREMOBIL Compact, overview of parameter set for Memoskop C/CE

Emulation of the keyboard: Refer to the service instructions for SIREMOBIL Compact, Configuration of the Memoskop C/CE

## Function test

(Operation of the SIREMOBIL Compact, refer to the Operating Instructions RXR2-130.620.01...)

- Electronics cabinet movements and movements of the C-arm system
- Semi-transparent slot diaphragm and iris diaphragm
- Image intensifier format changeover
- Image reverse
- Image position and image rotation

- Fluoroscopy / Pulsed Fluoroscopy
- Image storage
- Digital Radiography (DR)
- Direct exposure option
- Image storage functions
- Mechanical functions of the monitor trolley
- Laser targeting device option
- Area dose product option: indication  $\text{cGy} \cdot \text{cm}^2$

## Recorded tests

The certificates and directions required are filed with the logbook.

- Perform the IQ quick test RXR2-130.037.01....
- Enter the new ADR characteristic curves in the operating instructions (refer to the operating instructions, "Curves and Graphs" chapter) after reprogramming the ADR characteristic curves.
- Perform the country-specific acceptance test (DHHS / R V ...)
- Record the equivalent leakage current in the protocol (Chapter 2 of these instructions) and file it in Register 3 of the logbook (only if the local mains voltage deviates from the nominal mains voltage).  
Refer to Note on line voltage and Notes on equivalent leakage current.

## Final steps

- Lock the handgrip (if present) for C-arm movement, located on the I.I. or X-ray tube, in the position desired.
- Perform the protective conductor test according to ARTD part 2; protective conductor resistance  $\leq 0.2 \text{ ohm}$ .
- Final visual inspection:
  - Check for physical damage.
  - Ensure that all parts are secured properly.
  - Ensure that all movable parts move freely.
- Turn over the documents to the customer.
- Fill out the reverse side of the quality certificate (Installation and start-up data) and file it in the logbook, Register 3.
- If problems are found, send the quality certificate to the address indicated.

Measurement configuration: refer to the illustration on the following page

|                        | Equivalent leakage current | Measurement device used, serial no. | Name | Date | Initials |
|------------------------|----------------------------|-------------------------------------|------|------|----------|
| Initial value measured |                            |                                     |      |      |          |
| Repeat measurement 1   |                            |                                     |      |      |          |
| Repeat measurement 2   |                            |                                     |      |      |          |
| Repeat measurement 3   |                            |                                     |      |      |          |
| Repeat measurement 4   |                            |                                     |      |      |          |
| Repeat measurement 5   |                            |                                     |      |      |          |
| Repeat measurement 6   |                            |                                     |      |      |          |
| Repeat measurement 7   |                            |                                     |      |      |          |
| Repeat measurement 8   |                            |                                     |      |      |          |
| Repeat measurement 9   |                            |                                     |      |      |          |
| Repeat measurement 10  |                            |                                     |      |      |          |
| Repeat measurement 11  |                            |                                     |      |      |          |
| Repeat measurement 12  |                            |                                     |      |      |          |
| Repeat measurement 13  |                            |                                     |      |      |          |
| Repeat measurement 14  |                            |                                     |      |      |          |
| Repeat measurement 15  |                            |                                     |      |      |          |
| Repeat measurement 16  |                            |                                     |      |      |          |
| Repeat measurement 17  |                            |                                     |      |      |          |
| Repeat measurement 18  |                            |                                     |      |      |          |
| Repeat measurement 19  |                            |                                     |      |      |          |
| Repeat measurement 20  |                            |                                     |      |      |          |

Tab. 1

## Configuration for measuring equivalent leakage current

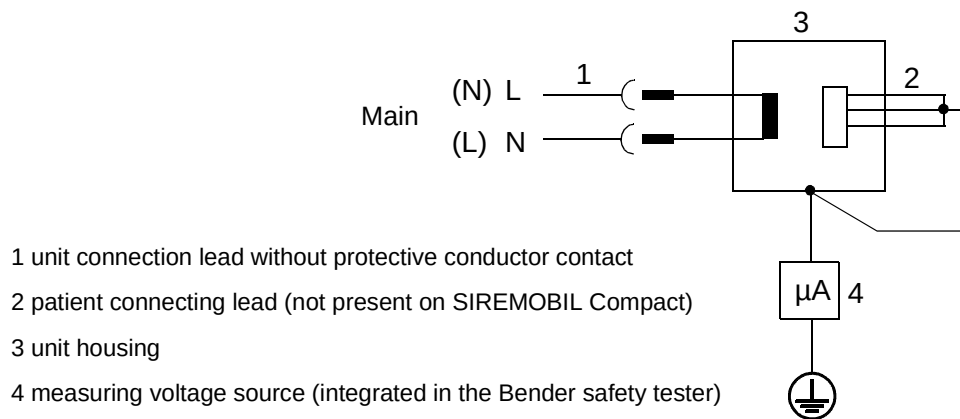


Fig. 1 Measuring the housing leakage current on units in operation

- Chapter 0      Revision level increased; revision level page updated accordingly
- Chapter 1      Note on TI 236 was deleted.  
Contents revised in the paragraph "1. Fluoroscopy time limit".  
The work steps  
"Fill out the reverse side..."  
and  
"Send the quality certificate..." were added in the paragraph: "Final steps".
- Chapter 3      Revised

TD SD 24 / Arnold  
TD SD 34 / Schlee  
SMS Iselin / O'Donnell

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